SEQUENCE LISTING

(1) GENERAL INFORMATION:

    (i) APPLICANT: Henrik Stender
                               Kaare Lund
                               Tina Anderson Hollerup

    (ii) TITLE OF INVENTION: **Novel Probes For The Detection of Mycobacteria**

    (iii) NUMBER OF SEQUENCES: 123

    (iv) CORRESPONDENCE ADDRESS:

        (A) ADDRESSEE: GRAHAM & JAMES LLP
        (B) STREET   885 Third Avenue
        (C) CITY: New York
        (D) STATE: New York
        (E) COUNTRY: USA
        (F) ZIP: 10022

    (v) COMPUTER READABLE FORM:
        (A) MEDIUM TYPE: Floppy disk 3.5 inch
        (B) COMPUTER: IBM PC compatible
        (C) OPERATING SYSTEM: ASCII
        (D) SOFTWARE: Microsoft Word

    (vi) CURRENT APPLICATION DATA:
        (A) APPLICATION NUMBER: 08/943,777
        (B) FILING DATE: October 3, 1997

    (vii) PRIOR APPLICATION DATA:
        (A) APPLICATION NUMBER: 60/028,392
        (B) FILING DATE: 10/15/96
        (A) APPLICATION NUMBER: 60/029,595
        (B) FILING DATE: 10/23/96
        (A) APPLICATION NUMBER: 05/05/97
        (B) FILING DATE: 05/08/97

    (viii) ATTORNEY/AGENT:
        (A) Vineet Kohli
        (B) Reg. 37,003

511/99374.02
123099/1007/35623.00001

(ix) TELECOMMUNICATION INFORMATION:
    (A) TELEPHONE: (212) 848-1065
    (B) TELEFAX: (212) 688-2449

(2) INFORMATION FOR SEQ ID NO: 1:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

  (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

AGATCGGGGT AGCAC 15

(2) INFORMATION FOR SEQ ID NO: 2:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

  (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

TGTTTTCTCC TCCTA 15

(2) INFORMATION FOR SEQ ID NO: 3:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

  (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

ACTGCCTCTC AGCCG 15

(2) INFORMATION FOR SEQ ID NO: 4:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

TGATACTAGG CAGGT 15

(2) INFORMATION FOR SEQ ID NO: 5:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

CGGATTCACA GCGGA 15

(2) INFORMATION FOR SEQ ID NO: 6:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

TCACCACCCT CCTCC 15

(2) INFORMATION FOR SEQ ID NO: 7:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

TTAACCTTGC GACAT 15

(2) INFORMATION FOR SEQ ID NO: 8:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs

(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

ACTATTCACA CGCGC 15

(2) INFORMATION FOR SEQ ID NO: 9:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

CTCCGCGGTG AACCA 15

(2) INFORMATION FOR SEQ ID NO: 10:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 10

GCTTTACACC ACGGC 15

(2) INFORMATION FOR SEQ ID NO: 11:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 11:

ACGCTTGGGG GCCTT 15

(2) INFORMATION FOR SEQ ID NO: 12:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

CCACACCCAC CACAA 15

(2) INFORMATION FOR SEQ ID NO:13:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 13:

CCGGTGGCTT CGCTG 15

(2) INFORMATION FOR SEQ ID NO: 14:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

ACTTGCCTTG TCGCT 15

(2) INFORMATION FOR SEQ ID NO: 15:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs

(C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 15:

GATTCGTCAC GGGC 15

(2) INFORMATION FOR SEQ ID NO: 16:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 16:

AACTCCACAC CCCCG 15

(2) INFORMATION FOR SEQ ID NO: 17:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 17:

ACTCCACACC CCCGA 15

(2) INFORMATION FOR SEQ ID NO: 18:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 18:

ACCCCTTCGC TTGAC 15

(2) INFORMATION FOR SEQ ID NO: 19:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 19:

CTTGCCCCAG TGTTA 15

(2) INFORMATION FOR SEQ ID NO: 20:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 20:

CTCTCCCTAC CGGCT 15

(2) INFORMATION FOR SEQ ID NO: 21:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 21:

GATATTCCGG TCCCC 15

(2) INFORMATION FOR SEQ ID NO: 22:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 22:

ACTCCGCCCC AACTG 15

(2) INFORMATION FOR SEQ ID NO: 23:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 23:

CTGTCCCTAA ACCCG 15

(2) INFORMATION FOR SEQ ID NO: 24:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 24:

TTCGAGGTTA GATGC 15

(2) INFORMATION FOR SEQ ID NO: 25:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

GTCCCTAAAC CCGAT 15

(2) INFORMATION FOR SEQ ID NO: 26:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

GGTGCACCAG AGGTT 15

(2) INFORMATION FOR SEQ ID NO: 27:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 27:

CTGGCGGGAC AACTG 15

(2) INFORMATION FOR SEQ ID NO: 28:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 28:

TTATCCTGAC CGAAC 15

(2) INFORMATION FOR SEQ ID NO: 29:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 29:

GACCTATTGA ACCCG 15

(2) INFORMATION FOR SEQ ID NO: 30:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

GAAGAGACCT TTCCG 15

(2) INFORMATION FOR SEQ ID NO: 31:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

CACTCGAGTA TCTCC 15

(2) INFORMATION FOR SEQ ID NO: 32:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

ATCACCCACG TGTTA 15

(2) INFORMATION FOR SEQ ID NO: 33:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

GCATCCCGTG GTCCT 15

(2) INFORMATION FOR SEQ ID NO: 34:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

CACAAGACAT GCATC 15

(2) INFORMATION FOR SEQ ID NO: 35:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

TAAAGCGCTT TCCAC 15

(2) INFORMATION FOR SEQ ID NO: 36:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 36:

GCTCATCCCA CACCG 15

(2) INFORMATION FOR SEQ ID NO: 37:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 37:

CCGAGAGAAC CCGGA 15

(2) INFORMATION FOR SEQ ID NO: 38:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 38:

AGTCCCCACC ATTAC 15

(2) INFORMATION FOR SEQ ID NO: 39:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 39:

AACCTCGCGG CATCG 15

(2) INFORMATION FOR SEQ ID NO: 40:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 40:

GGC TTTTAAG GATTC 15

(2) INFORMATION FOR SEQ ID NO: 41:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 41:

GACCCCGATC CGAAC 15

(2) INFORMATION FOR SEQ ID NO: 42:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 42:

CCGACTTCAC GGGGT 15

(2) INFORMATION FOR SEQ ID NO: 43:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 43:

CGGAGGGGCA GTATC 15

(2) INFORMATION FOR SEQ ID NO: 44:

   (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 44:

GATCAATGCT CGGT 15

(2) INFORMATION FOR SEQ ID NO: 45:

   (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 45:

TTCCCCGCGT TACCT 15

(2) INFORMATION FOR SEQ ID NO: 46:

   (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 46:

TTAGCCTGTT CCGGT 15

(2) INFORMATION FOR SEQ ID NO: 47:

   (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 47:

GCATGCGGTT TAGCC 15

(2) INFORMATION FOR SEQ ID NO: 48:

   (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 48:

TACCCGGTTG TCCAT 15

(2) INFORMATION FOR SEQ ID NO: 49:

   (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 49:

GTAGAGCTGA GACAT 15

(2) INFORMATION FOR SEQ ID NO: 50:

   (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 50:

GCCGTCCCAG GCCAC 15

(2) INFORMATION FOR SEQ ID NO: 51:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO:51:

CTCGGGTGTT GATAT 15

(2) INFORMATION FOR SEQ ID NO: 52:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 52:

ACTATTTCAC TCCCT 15

(2) INFORMATION FOR SEQ ID NO: 53:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 53:

ACGCCATCAC CCCAC 15

(2) INFORMATION FOR SEQ ID NO: 54:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 54:

CGACGTGTCC CTGAC 15

(2) INFORMATION FOR SEQ ID NO: 55:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 55:

ACTACACCCC AAAGG 15

(2) INFORMATION FOR SEQ ID NO: 56:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 56:

CACGCTTTTA CACCA 15

(2) INFORMATION FOR SEQ ID NO: 57:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 57:

GCGACTACAC ATCCT 15

(2) INFORMATION FOR SEQ ID NO: 58:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 58:

CGGCGCATAA TCACT 15

(2) INFORMATION FOR SEQ ID NO: 59:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 59:

CCACATCCAC CGTAA 15

(2) INFORMATION FOR SEQ ID NO: 60:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 60:

CGCTGAATGG GGGAC 15

(2) INFORMATION FOR SEQ ID NO: 61:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 61:

GGAGCTTCGC TGAAT 15

(2) INFORMATION FOR SEQ ID NO: 62:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 62:

CGGTCACCCG GAGCT 15

(2) INFORMATION FOR SEQ ID NO: 63:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 63:

GGACGCCCAT ACACG 15

(2) INFORMATION FOR SEQ ID NO: 64:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 64:

GAAGGGGAAT GGTCG 15

(2) INFORMATION FOR SEQ ID NO: 65:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 65:

AATCGCCACG CCCCC 15

(2) INFORMATION FOR SEQ ID NO: 66:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 66:

CAGCGAAGGT CCCAC 15

(2) INFORMATION FOR SEQ ID NO: 67:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 67:

GTCACCCCAT TGCTT 15

(2) INFORMATION FOR SEQ ID NO: 68:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 68:

ATCGCTCTCT ACGGG 15

(2) INFORMATION FOR SEQ ID NO: 69:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 69:

GTGTATGTGC TCGCT 15

(2) INFORMATION FOR SEQ ID NO: 70:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 70:

ACGGTATTCC GGGCC 15

(2) INFORMATION FOR SEQ ID NO: 71:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 71:

GGCCGAATCC CGCTC 15

(2) INFORMATION FOR SEQ ID NO: 72:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 72:

AAACAGTCGC TACCC 15

(2) INFORMATION FOR SEQ ID NO: 73:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 73:

CCTTACGGGT TAACG 15

(2) INFORMATION FOR SEQ ID NO: 74:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 74:

GAGACAGTTG GGAAG 15

(2) INFORMATION FOR SEQ ID NO: 75:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 75:

TGGCGTCTGT GCTTC 15

(2) INFORMATION FOR SEQ ID NO: 76:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 76:

CGACTCCACA CAAAC 15

(2) INFORMATION FOR SEQ ID NO: 77:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 77:

GATAAGGGTT CGACG 15

(2) INFORMATION FOR SEQ ID NO: 78:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 78:

ATCCGTTGAG TGACA 15

(2) INFORMATION FOR SEQ ID NO: 79

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 79:

CAGCCCGTTA TCCCC 15

(2) INFORMATION FOR SEQ ID NO: 80:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 80:

AACCTTTGGG ACCTG 15

(2) INFORMATION FOR SEQ ID NO: 81:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 81:

TAAAAGGGTG AGAAA 15

(2) INFORMATION FOR SEQ ID NO: 82:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 82:

GTCTGGCCTA TCAAT 15

(2) INFORMATION FOR SEQ ID NO: 83:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 83:

AGATTGCCCA CGTGT 15

(2) FORMATION FOR SEQ ID NO: :84

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO:84:

AATCCGAGAA AACCC 15

(2) INFORMATION FOR SEQ ID NO: 85:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO:85:

GCATTACCCG CTGGC 15

(2) INFORMATION FOR SEQ ID NO: 86:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 86:

TTAAAAGGAT TCGCT 15

(2) INFORMATION FOR SEQ ID NO: 87:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 87:

AGACCCCAAT CCGAA 15

(2) INFORMATION FOR SEQ ID NO: 88:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 88:

GACTCCGACT TCATG 15

(2) INFORMATION FOR SEQ ID NO: 89:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO:89:

GTCTTTTCGT CCTGC 15

(2) INFORMATION FOR SEQ ID NO: 90:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 90:

GTCTTATCGT CCTGC 15

(2) INFORMATION FOR SEQ ID NO: 91:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 91:

GTCTTCTCGT CCTGC 15

(2) INFORMATION FOR SEQ ID NO: 92:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 92:

GTCTTGTCGT CCTGC 15

(2) INFORMATION FOR SEQ ID NO: 93:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 93:

GTCTATTCGT CCTGC 15

(2) INFORMATION FOR SEQ ID NO: 94:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 94:

GTCTCTTCGT CCTGC 15

(2) INFORMATION FOR SEQ ID NO: 95:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 95:

GTCTGTTCGT CCTGC 15

(2) INFORMATION FOR SEQ ID NO: 96:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

  (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 96:

TTGGCCGGTG CTTCT 15

(2) INFORMATION FOR SEQ ID NO: 97:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

  (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 97:

TTGGCCGGTA CTTCT 15

(2) INFORMATION FOR SEQ ID NO: 98:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

  (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 98:

TTGGCCGGTC CTTCT 15

(2) INFORMATION FOR SEQ ID NO: 99:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 99:

TTGGCCGGTT CTTCT 15

(2) INFORMATION FOR SEQ ID NO: 100:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 100:

ACCGCGGCTG CTGGC 15

(2) INFORMATION FOR SEQ ID NO: 101:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 101:

ACCGCGGCTA CTGGC 15

(2) INFORMATION FOR SEQ ID NO: 102:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 102:

ACCGCGGCTC CTGGC 15

(2) INFORMATION FOR SEQ ID NO: 103:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 103:

ACCGCGGCTT CTGGC 15

(2) INFORMATION FOR SEQ ID NO: 104:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO:104:

CGGCAGCTGG CACGT 15

(2) INFORMATION FOR SEQ ID NO: 105:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 105:

CGGCCGCTGG CACGT 15

(2) INFORMATION FOR SEQ ID NO: 106:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 106:

CGGCTGCTGG CACGT 15

(2) INFORMATION FOR SEQ ID NO: 107:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 107:

CGTATTACCG CAGCT 15

(2) INFORMATION FOR SEQ ID NO: 108:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 108:

CGTATTACCG CCGCT 15

(2) INFORMATION FOR SEQ ID NO: 109:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 109:

CGTATTACCG CTGCT 15

(2) INFORMATION FOR SEQ ID NO: 110:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 110:

TTCCTTTGAG TTTTA 15

(2) INFORMATION FOR SEQ ID NO: 111

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 111:

TTCCTTTAAG TTTTA 15

(2) INFORMATION FOR SEQ ID NO: 112:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 112:

TTCCTTTCAG TTTTA 15

(2) INFORMATION FOR SEQ ID NO: 113:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 113:

TTCCTTTTAG TTTTA 15

(2) INFORMATION FOR SEQ ID NO: 114:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 114:

TTCCTTAGAG TTTTA 15

(2) INFORMATION FOR SEQ ID NO: 115:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 115:

TTCCTTCGAG TTTTA 15

(2) INFORMATION FOR SEQ ID NO: 116:

    (i) SEQUENCE CHARACTERISTICS:
      (A) LENGTH: 15 basepairs
      (B) TYPE: nucleic acid basepairs
      (C) STRANDEDNESS: single
      (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 116:

TTCCTTGGAG TTTTA 15

(2) INFORMATION FOR SEQ ID NO: 117:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 117:

CATGTGTCCT GTGGT 15

(2) INFORMATION FOR SEQ ID NO: 118:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 118:

CGTCAGCCCG AGAAA 15

(2) INFORMATION FOR SEQ ID NO: 119:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 119:

CACTACACAC GCTCG 15

(2) INFORMATION FOR SEQ ID NO: 120:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 120:

TGGCGTTGAG GTTTC 15

(2) INFORMATION FOR SEQ ID NO: 121:

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 121:

GTCCGTGAAC CCGAT 15

(2) INFORMATION FOR SEQ ID NO: 122:

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 122:

TACGCTCTTT GAGCT 15

(2) INFORMATION FOR SEQ ID NO: 123:

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 123:

AACACTCCCT TTGGA 15

SEQUENCE LISTING

(1) GENERAL INFORMATION:

(i) APPLICANT: Henrik Stender
                Kaare Lund
                Tina Anderson Hollerup

  (ii) TITLE OF INVENTION: Novel Probes For The Detection of Mycobacteria

(iii) NUMBER OF SEQUENCES: 123

(iv) CORRESPONDENCE ADDRESS:

      (A) ADDRESSEE: GRAHAM & JAMES LLP
      (B) STREET   885 Third Avenue
      (C) CITY: New York
      (D) STATE: New York
      (E) COUNTRY: USA
      (F) ZIP: 10022

(v) COMPUTER READABLE FORM:
      (A) MEDIUM TYPE: Floppy disk 3.5 inch
      (B) COMPUTER: IBM PC compatible
      (C) OPERATING SYSTEM: ASCII
      (D) SOFTWARE: Microsoft Word

(vi)CURRENT APPLICATION DATA:
      (A) APPLICATION NUMBER: 08/943,777
      (B) FILING DATE: October 3, 1997

(vii) PRIOR APPLICATION DATA:
      (A) APPLICATION NUMBER: 60/028,392
      (B) FILING DATE: 10/15/96
      (A) APPLICATION NUMBER: 60/029,595
      (B) FILING DATE: 10/23/96
      (A) APPLICATION NUMBER: 05/05/97
      (B) FILING DATE: 05/08/97

(viii)ATTORNEY/AGENT:
      (A) Vineet Kohli
      (B) Reg. 37,003

(ix) TELECOMMUNICATION INFORMATION:
    (A) TELEPHONE: (212) 848-1065
    (B) TELEFAX: (212) 688-2449

(2) INFORMATION FOR SEQ ID NO: 1:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

  (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 1:

AGATCGGGGT AGCAC 15

(2) INFORMATION FOR SEQ ID NO: 2:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

  (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 2:

TGTTTTCTCC TCCTA 15

(2) INFORMATION FOR SEQ ID NO: 3:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

  (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 3:

ACTGCCTCTC AGCCG 15

(2) INFORMATION FOR SEQ ID NO: 4:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 4:

TGATACTAGG CAGGT 15

(2) INFORMATION FOR SEQ ID NO: 5:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 5:

CGGATTCACA GCGGA 15

(2) INFORMATION FOR SEQ ID NO: 6:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 6:

TCACCACCCT CCTCC 15

(2) INFORMATION FOR SEQ ID NO: 7:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 7:

TTAACCTTGC GACAT 15

(2) INFORMATION FOR SEQ ID NO: 8:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs

(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 8:

ACTATTCACA CGCGC 15

(2) INFORMATION FOR SEQ ID NO: 9:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 9:

CTCCGCGGTG AACCA 15

(2) INFORMATION FOR SEQ ID NO: 10:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 10

GCTTTACACC ACGGC 15

(2) INFORMATION FOR SEQ ID NO: 11:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 11:

ACGCTTGGGG GCCTT 15

(2) INFORMATION FOR SEQ ID NO: 12:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 12:

CCACACCCAC CACAA 15

(2) INFORMATION FOR SEQ ID NO:13:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 13:

CCGGTGGCTT CGCTG 15

(2) INFORMATION FOR SEQ ID NO: 14:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 14:

ACTTGCCTTG TCGCT 15

(2) INFORMATION FOR SEQ ID NO: 15:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs

(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 15:

GATTCGTCAC GGGC 15

(2) INFORMATION FOR SEQ ID NO: 16:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 16:

AACTCCACAC CCCCG 15

(2) INFORMATION FOR SEQ ID NO: 17:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 17:

ACTCCACACC CCCGA 15

(2) INFORMATION FOR SEQ ID NO: 18:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 18:

ACCCCTTCGC TTGAC 15

(2) INFORMATION FOR SEQ ID NO: 19:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 19:

CTTGCCCCAG TGTTA 15

(2) INFORMATION FOR SEQ ID NO: 20:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 20:

CTCTCCCTAC CGGCT 15

(2) INFORMATION FOR SEQ ID NO: 21:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 21:

GATATTCCGG TCCCC 15

(2) INFORMATION FOR SEQ ID NO: 22:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 22:

ACTCCGCCCC AACTG 15

(2) INFORMATION FOR SEQ ID NO: 23:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 23:

CTGTCCCTAA ACCCG 15

(2) INFORMATION FOR SEQ ID NO: 24:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 24:

TTCGAGGTTA GATGC 15

(2) INFORMATION FOR SEQ ID NO: 25:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 25:

GTCCCTAAAC CCGAT 15

(2) INFORMATION FOR SEQ ID NO: 26:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 26:

GGTGCACCAG AGGTT 15

(2) INFORMATION FOR SEQ ID NO: 27:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 27:

CTGGCGGGAC AACTG 15

(2) INFORMATION FOR SEQ ID NO: 28:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 28:

TTATCCTGAC CGAAC 15

(2) INFORMATION FOR SEQ ID NO: 29:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 29:

GACCTATTGA ACCCG 15

(2) INFORMATION FOR SEQ ID NO: 30:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 30:

GAAGAGACCT TTCCG 15

(2) INFORMATION FOR SEQ ID NO: 31:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 31:

CACTCGAGTA TCTCC 15

(2) INFORMATION FOR SEQ ID NO: 32:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 32:

ATCACCCACG TGTTA 15

(2) INFORMATION FOR SEQ ID NO: 33:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 33:

GCATCCCGTG GTCCT 15

(2) INFORMATION FOR SEQ ID NO: 34:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 34:

CACAAGACAT GCATC 15

(2) INFORMATION FOR SEQ ID NO: 35:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 35:

TAAAGCGCTT TCCAC 15

(2) INFORMATION FOR SEQ ID NO: 36:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 36:

GCTCATCCCA CACCG 15

(2) INFORMATION FOR SEQ ID NO: 37:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 37:

CCGAGAGAAC CCGGA 15

(2) INFORMATION FOR SEQ ID NO: 38:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 38:

AGTCCCCACC ATTAC 15

(2) INFORMATION FOR SEQ ID NO: 39:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 39:

AACCTCGCGG CATCG 15

(2) INFORMATION FOR SEQ ID NO: 40:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 40:

GGC TTTTAAG GATTC 15

(2) INFORMATION FOR SEQ ID NO: 41:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 41:

GACCCCGATC CGAAC 15

(2) INFORMATION FOR SEQ ID NO: 42:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 42:

CCGACTTCAC GGGGT 15

(2) INFORMATION FOR SEQ ID NO: 43:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 43:

CGGAGGGGCA GTATC 15

(2) INFORMATION FOR SEQ ID NO: 44:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 44:

GATCAATGCT CGGT 15

(2) INFORMATION FOR SEQ ID NO: 45:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 45:

TTCCCCGCGT TACCT 15

(2) INFORMATION FOR SEQ ID NO: 46:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 46:

TTAGCCTGTT CCGGT 15

(2) INFORMATION FOR SEQ ID NO: 47:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 47:

GCATGCGGTT TAGCC 15

(2) INFORMATION FOR SEQ ID NO: 48:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 48:

TACCCGGTTG TCCAT 15

(2) INFORMATION FOR SEQ ID NO: 49:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 49:

GTAGAGCTGA GACAT 15

(2) INFORMATION FOR SEQ ID NO: 50:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 50:

GCCGTCCCAG GCCAC 15

(2) INFORMATION FOR SEQ ID NO: 51:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO:51:

CTCGGGTGTT GATAT 15

(2) INFORMATION FOR SEQ ID NO: 52:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 52:

ACTATTTCAC TCCCT 15

(2) INFORMATION FOR SEQ ID NO: 53:

(i) SEQUENCE CHARACTERISTICS:
(A) LENGTH: 15 basepairs
(B) TYPE: nucleic acid basepairs
(C) STRANDEDNESS: single
(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 53:

ACGCCATCAC CCCAC 15

(2) INFORMATION FOR SEQ ID NO: 54:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 54:

CGACGTGTCC CTGAC 15

(2) INFORMATION FOR SEQ ID NO: 55:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 55:

ACTACACCCC AAAGG 15

(2) INFORMATION FOR SEQ ID NO: 56:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 56:

CACGCTTTTA CACCA 15

(2) INFORMATION FOR SEQ ID NO: 57:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 57:

GCGACTACAC ATCCT 15

(2) INFORMATION FOR SEQ ID NO: 58:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 58:

CGGCGCATAA TCACT 15

(2) INFORMATION FOR SEQ ID NO: 59:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 59:

CCACATCCAC CGTAA 15

(2) INFORMATION FOR SEQ ID NO: 60:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 60:

CGCTGAATGG GGGAC 15

(2) INFORMATION FOR SEQ ID NO: 61:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 61:

GGAGCTTCGC TGAAT 15

(2) INFORMATION FOR SEQ ID NO: 62:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 62:

CGGTCACCCG GAGCT 15

(2) INFORMATION FOR SEQ ID NO: 63:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 63:

GGACGCCCAT ACACG 15

(2) INFORMATION FOR SEQ ID NO: 64:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 64:

GAAGGGGAAT GGTCG 15

(2) INFORMATION FOR SEQ ID NO: 65:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 65:

AATCGCCACG CCCCC 15

(2) INFORMATION FOR SEQ ID NO: 66:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 66:

CAGCGAAGGT CCCAC 15

(2) INFORMATION FOR SEQ ID NO: 67:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 67:

GTCACCCCAT TGCTT 15

(2) INFORMATION FOR SEQ ID NO: 68:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 68:

ATCGCTCTCT ACGGG 15

(2) INFORMATION FOR SEQ ID NO: 69:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 69:

GTGTATGTGC TCGCT 15

(2) INFORMATION FOR SEQ ID NO: 70:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 70:

ACGGTATTCC GGGCC 15

(2) INFORMATION FOR SEQ ID NO: 71:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 71:

GGCCGAATCC CGCTC 15

(2) INFORMATION FOR SEQ ID NO: 72:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 72:

AAACAGTCGC TACCC 15

(2) INFORMATION FOR SEQ ID NO: 73:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 73:

CCTTACGGGT TAACG 15

(2) INFORMATION FOR SEQ ID NO: 74:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 74:

GAGACAGTTG GGAAG 15

(2) INFORMATION FOR SEQ ID NO: 75:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 75:

TGGCGTCTGT GCTTC 15

(2) INFORMATION FOR SEQ ID NO: 76:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 76:

CGACTCCACA CAAAC 15

(2) INFORMATION FOR SEQ ID NO: 77:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 77:

GATAAGGGTT CGACG 15

(2) INFORMATION FOR SEQ ID NO: 78:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 78:

ATCCGTTGAG TGACA 15

(2) INFORMATION FOR SEQ ID NO: 79

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 79:

CAGCCCGTTA TCCCC 15

(2) INFORMATION FOR SEQ ID NO: 80:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 80:

AACCTTTGGG ACCTG 15

(2) INFORMATION FOR SEQ ID NO: 81:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 81:

TAAAAGGGTG AGAAA 15

(2) INFORMATION FOR SEQ ID NO: 82:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

  (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 82:

GTCTGGCCTA TCAAT 15

(2) INFORMATION FOR SEQ ID NO: 83:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

  (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 83:

AGATTGCCCA CGTGT 15

(2) FORMATION FOR SEQ ID NO: :84

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

  (ii) SEQUENCE DESCRIPTION: SEQ ID NO:84:

AATCCGAGAA AACCC 15

(2) INFORMATION FOR SEQ ID NO: 85:

  (i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO:85:

GCATTACCCG CTGGC 15

(2) INFORMATION FOR SEQ ID NO: 86:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 86:

TTAAAAGGAT TCGCT 15

(2) INFORMATION FOR SEQ ID NO: 87:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 87:

AGACCCCAAT CCGAA 15

(2) INFORMATION FOR SEQ ID NO: 88:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 88:

GACTCCGACT TCATG 15

(2) INFORMATION FOR SEQ ID NO: 89:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO:89:

GTCTTTTCGT CCTGC 15

(2) INFORMATION FOR SEQ ID NO: 90:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 90:

GTCTTATCGT CCTGC 15

(2) INFORMATION FOR SEQ ID NO: 91:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 91:

GTCTTCTCGT CCTGC 15

(2) INFORMATION FOR SEQ ID NO: 92:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 92:

GTCTTGTCGT CCTGC 15

(2) INFORMATION FOR SEQ ID NO: 93:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 93:

GTCTATTCGT CCTGC 15

(2) INFORMATION FOR SEQ ID NO: 94:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 94:

GTCTCTTCGT CCTGC 15

(2) INFORMATION FOR SEQ ID NO: 95:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 95:

GTCTGTTCGT CCTGC 15

(2) INFORMATION FOR SEQ ID NO: 96:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 96:

TTGGCCGGTG CTTCT 15

(2) INFORMATION FOR SEQ ID NO: 97:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 97:

TTGGCCGGTA CTTCT 15

(2) INFORMATION FOR SEQ ID NO: 98:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 98:

TTGGCCGGTC CTTCT 15

(2) INFORMATION FOR SEQ ID NO: 99:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 99:

TTGGCCGGTT CTTCT 15

(2) INFORMATION FOR SEQ ID NO: 100:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 100:

ACCGCGGCTG CTGGC 15

(2) INFORMATION FOR SEQ ID NO: 101:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 101:

ACCGCGGCTA CTGGC 15

(2) INFORMATION FOR SEQ ID NO: 102:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 102:

ACCGCGGCTC CTGGC 15

(2) INFORMATION FOR SEQ ID NO: 103:

(i) SEQUENCE CHARACTERISTICS:
   (A) LENGTH: 15 basepairs
   (B) TYPE: nucleic acid basepairs
   (C) STRANDEDNESS: single
   (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 103:

ACCGCGGCTT CTGGC 15

(2) INFORMATION FOR SEQ ID NO: 104:

(i) SEQUENCE CHARACTERISTICS:
   (A) LENGTH: 15 basepairs
   (B) TYPE: nucleic acid basepairs
   (C) STRANDEDNESS: single
   (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO:104:

CGGCAGCTGG CACGT 15

(2) INFORMATION FOR SEQ ID NO: 105:

(i) SEQUENCE CHARACTERISTICS:
   (A) LENGTH: 15 basepairs
   (B) TYPE: nucleic acid basepairs
   (C) STRANDEDNESS: single
   (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 105:

CGGCCGCTGG CACGT 15

(2) INFORMATION FOR SEQ ID NO: 106:

(i) SEQUENCE CHARACTERISTICS:
   (A) LENGTH: 15 basepairs
   (B) TYPE: nucleic acid basepairs
   (C) STRANDEDNESS: single
   (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 106:

CGGCTGCTGG CACGT 15

(2) INFORMATION FOR SEQ ID NO: 107:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 107:

CGTATTACCG CAGCT 15

(2) INFORMATION FOR SEQ ID NO: 108:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 108:

CGTATTACCG CCGCT 15

(2) INFORMATION FOR SEQ ID NO: 109:

    (i) SEQUENCE CHARACTERISTICS:
       (A) LENGTH: 15 basepairs
       (B) TYPE: nucleic acid basepairs
       (C) STRANDEDNESS: single
       (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 109:

CGTATTACCG CTGCT 15

(2) INFORMATION FOR SEQ ID NO: 110:

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 110:

TTCCTTTGAG TTTTA 15

(2) INFORMATION FOR SEQ ID NO: 111

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 111:

TTCCTTTAAG TTTTA 15

(2) INFORMATION FOR SEQ ID NO: 112:

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 112:

TTCCTTTCAG TTTTA 15

(2) INFORMATION FOR SEQ ID NO: 113:

(i) SEQUENCE CHARACTERISTICS:
    (A) LENGTH: 15 basepairs
    (B) TYPE: nucleic acid basepairs
    (C) STRANDEDNESS: single
    (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 113:

TTCCTTTTAG TTTTA 15

(2) INFORMATION FOR SEQ ID NO: 114:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 114:

TTCCTTAGAG TTTTA 15

(2) INFORMATION FOR SEQ ID NO: 115:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 115:

TTCCTTCGAG TTTTA 15

(2) INFORMATION FOR SEQ ID NO: 116:

   (i) SEQUENCE CHARACTERISTICS:
     (A) LENGTH: 15 basepairs
     (B) TYPE: nucleic acid basepairs
     (C) STRANDEDNESS: single
     (D) TOPOLOGY: linear

   (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 116:

TTCCTTGGAG TTTTA 15

(2) INFORMATION FOR SEQ ID NO: 117:

(i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 117:

CATGTGTCCT GTGGT 15

(2) INFORMATION FOR SEQ ID NO: 118:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 118:

CGTCAGCCCG AGAAA 15

(2) INFORMATION FOR SEQ ID NO: 119:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 119:

CACTACACAC GCTCG 15

(2) INFORMATION FOR SEQ ID NO: 120:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

(ii) SEQUENCE DESCRIPTION: SEQ ID NO: 120:

TGGCGTTGAG GTTTC 15

(2) INFORMATION FOR SEQ ID NO: 121:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 121:

GTCCGTGAAC CCGAT 15

(2) INFORMATION FOR SEQ ID NO: 122:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 122:

TACGCTCTTT GAGCT 15

(2) INFORMATION FOR SEQ ID NO: 123:

    (i) SEQUENCE CHARACTERISTICS:
        (A) LENGTH: 15 basepairs
        (B) TYPE: nucleic acid basepairs
        (C) STRANDEDNESS: single
        (D) TOPOLOGY: linear

    (ii) SEQUENCE DESCRIPTION: SEQ ID NO: 123:

AACACTCCCT TTGGA 15